McIntosh

MC 2105

POWER AMPLIFIER

SERVICE INFORMATION

STARTING WITH SERIAL NO. 26M08

McINTOSH LABORATORY INC. 2 CHAMBERS STREET BINGHAMTON, NEW YORK

ELECTRICAL SPECIFICATIONS

PERFORMANCE

McIntosh audio power ratings are in accordance with the Federal Trade Commission Regulation of November 4, 1974 concerning power output claims for amplifiers used in home entertainment products.

POWER OUTPUT

105 watts minimum sine wave continuous average power output, per channel, both channels operating into 4 ohms, 8 ohms, or 16 ohms load impedance, which is:

20.5 volts RMS across 4 ohms
29.0 volts RMS across 8 ohms
41.0 volts RMS across 16 ohms

OUTPUT LOAD IMPEDANCE

4 ohms, 8 ohms, or 16 ohms; separate terminals are provided for each output

RATED POWER BAND

20 Hz to 20,000 Hz

TOTAL HARMONIC DISTORTION

0.25% maximum harmonic distortion at any power level from 250 milliwatts to 105 watts per channel from 20 Hz to 20,000 Hz, both channels operating

INTERMODULATION DISTORTION

0.25% if instantaneous peak power output is 210 watts or less per channel with both channels operating for any combination of frequencies 20 Hz to 20,000 Hz

FREQUENCY RESPONSE

20 Hz to 20,000 Hz +0 –0.25 dB
10 Hz to 100,000 Hz +0 –3.0 dB at one watt output

NOISE AND HUM

90 dB below rated output

OUTPUT POWER MONITOR METER

Meter is calibrated to read +3 dB when amplifier produces 105 watts. Meter range switch is provided to increase meter sensitivity by 10 dB or 20 dB
Calibration accuracy at 0 dB reading is ±2% at all frequencies; meter range accuracy is ±5%

RATINGS

OUTPUT VOLTAGES

25 volts for distribution lines

DAMPING FACTOR

13 at 8 ohms output
18 at 4 ohms output
10 at 16 ohms output

INPUT IMPEDANCE

200,00 ohms

INPUT SENSITIVITY

0.5 volt. Level control provided for higher input voltage

GENERAL INFORMATION

POWER REQUIREMENTS

120 volts 50/60 Hz, 75 watts at zero signal output, 430 watts at rated output

SEMICONDUCTOR COMPLEMENT

34 silicon transistors
18 silicon rectifiers and diodes

MECHANICAL INFORMATION

SIZE

Front panel measures 16 3/16 inches wide (41.12 cm) by 7⅛ inches high (18.1 cm). Chassis measures 15 inches wide (38.1 cm) by 6 9/16 inches high (16.67 cm) by 14½ inches deep (36.83 cm), including connectors. Knob clearance required is 1½ inches (3.81 cm) in front of mounting panel

FINISH

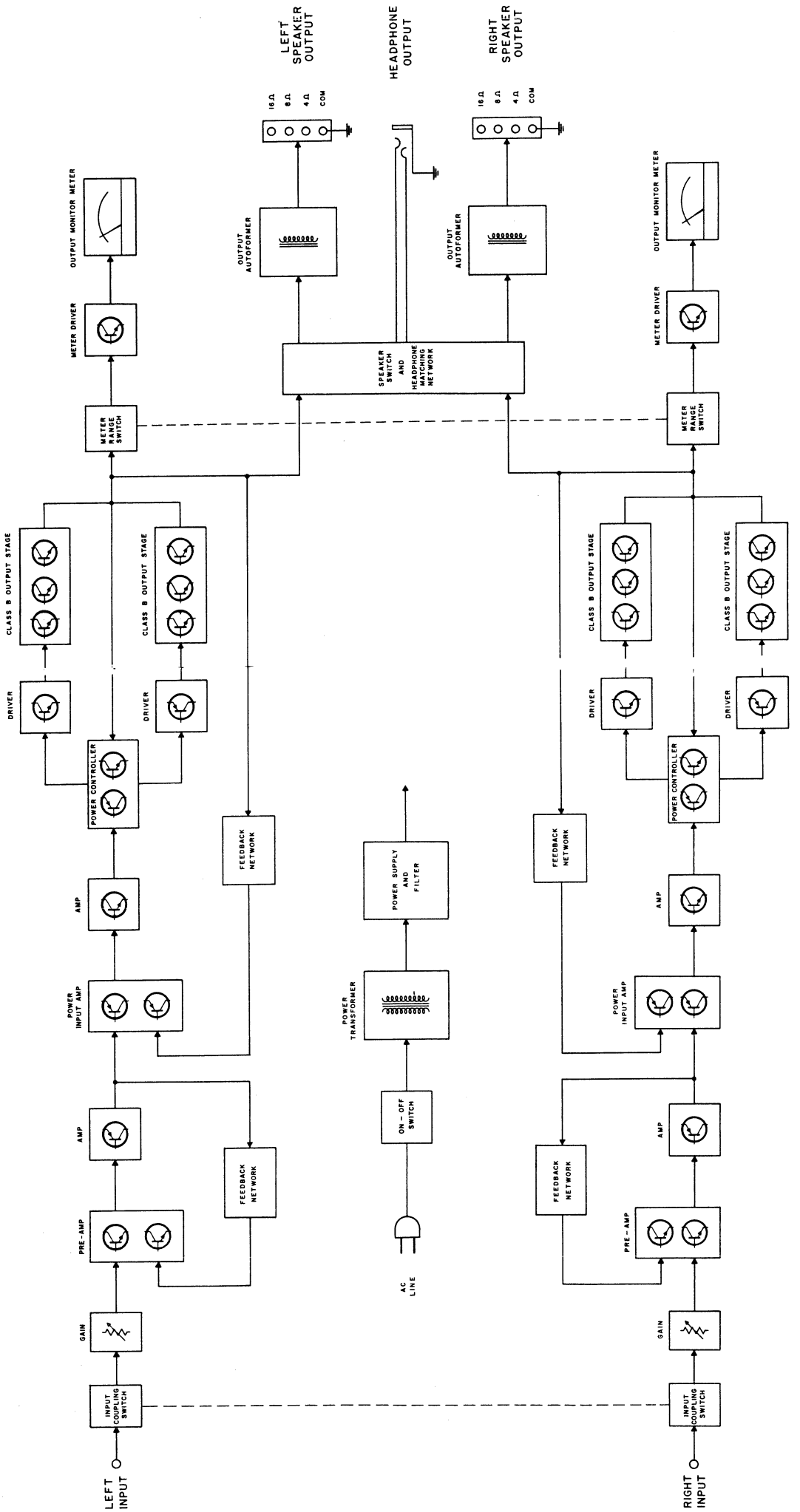
Front panel is anodized gold and black with special gold/teal nomenclature illumination. Chassis is chrome and black

MOUNTING

Exclusive McIntosh developed professional PANLOC

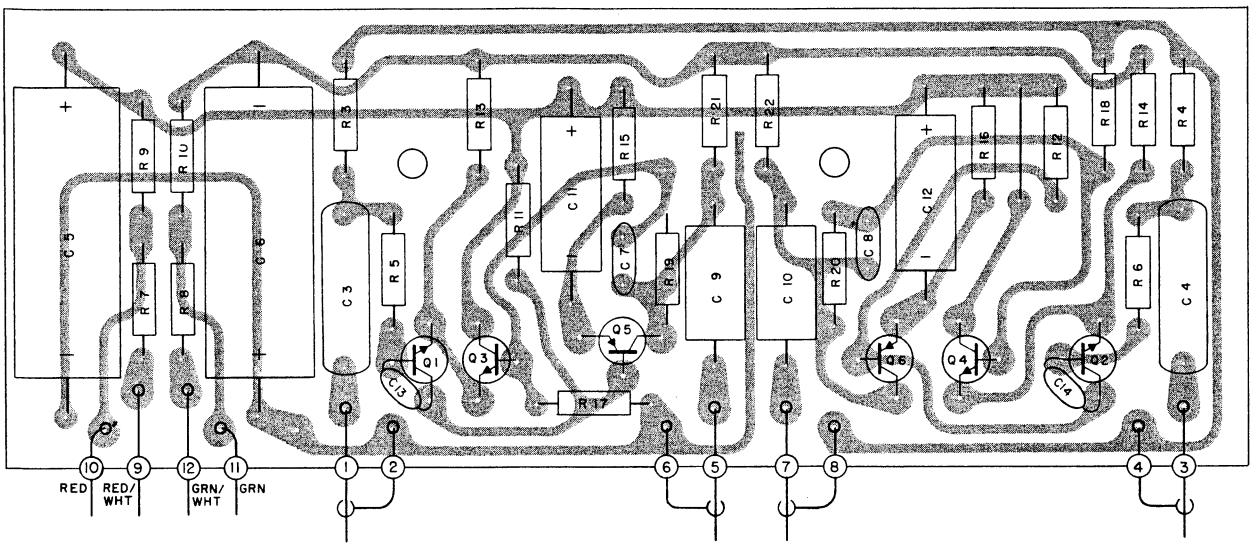
WEIGHT

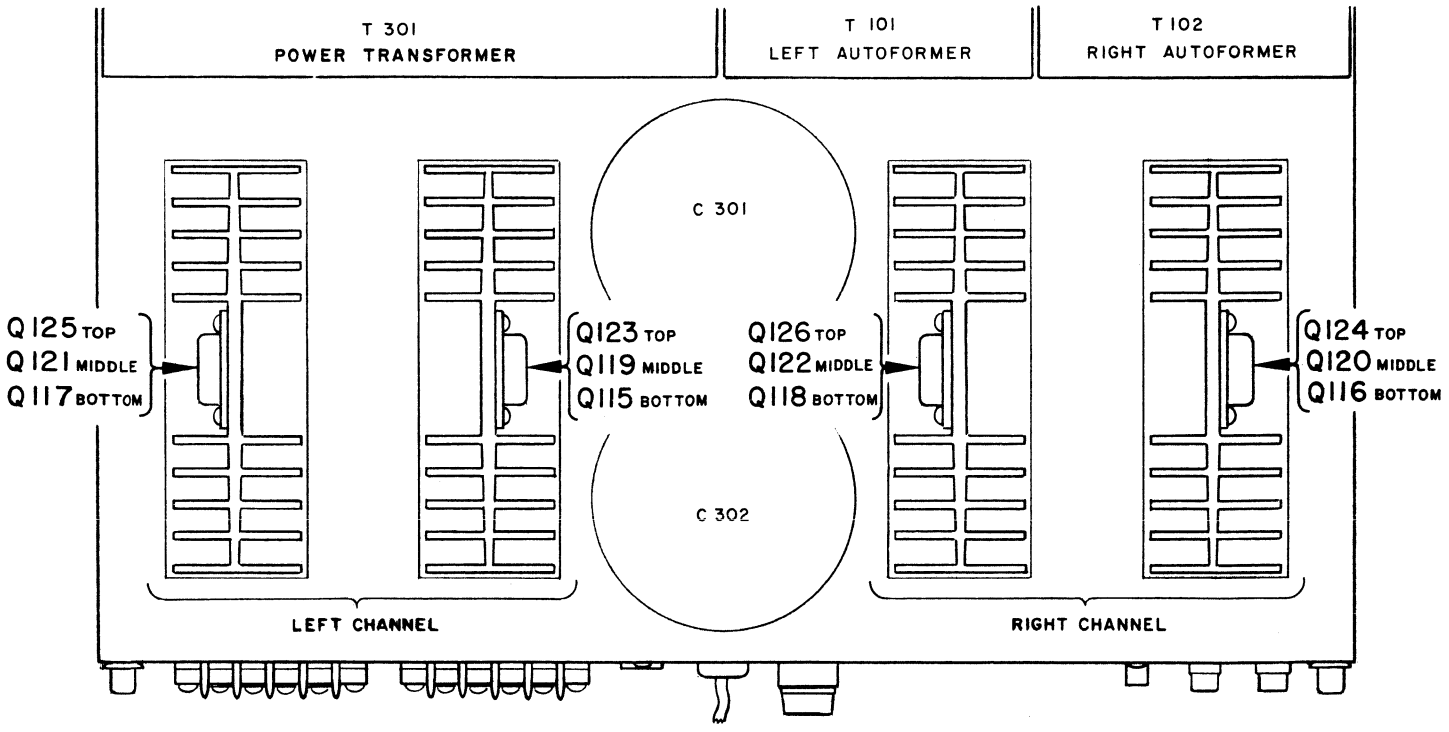
65 pounds (29.48 kg) net, 77 pounds (34.93 kg) in shipping carton



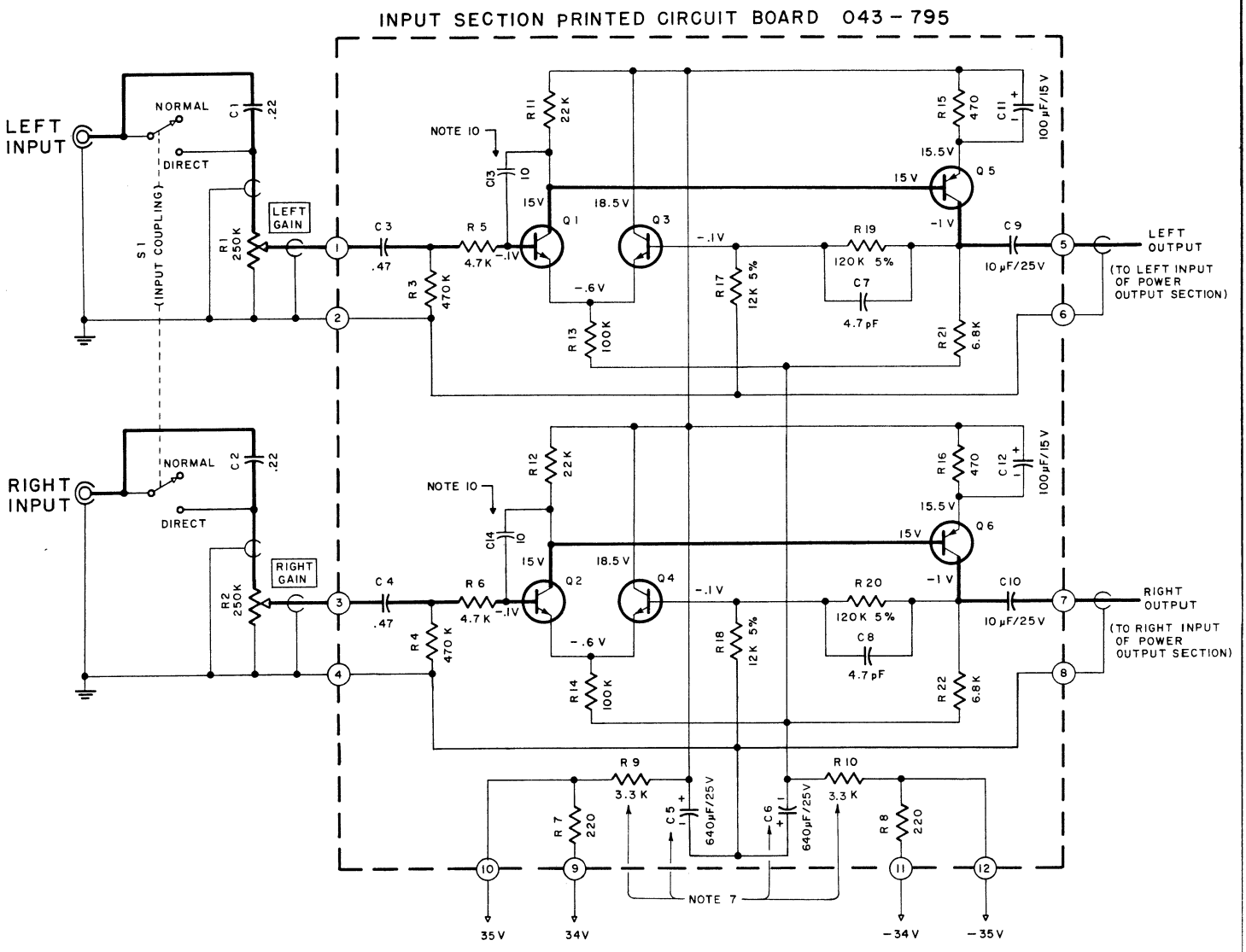
MC2105 BLOCK DIAGRAM

INPUT SECTION PRINTED CIRCUIT BOARD 043-795





LOCATION OF TRANSISTORS NOT ON PRINTED CIRCUIT BOARDS

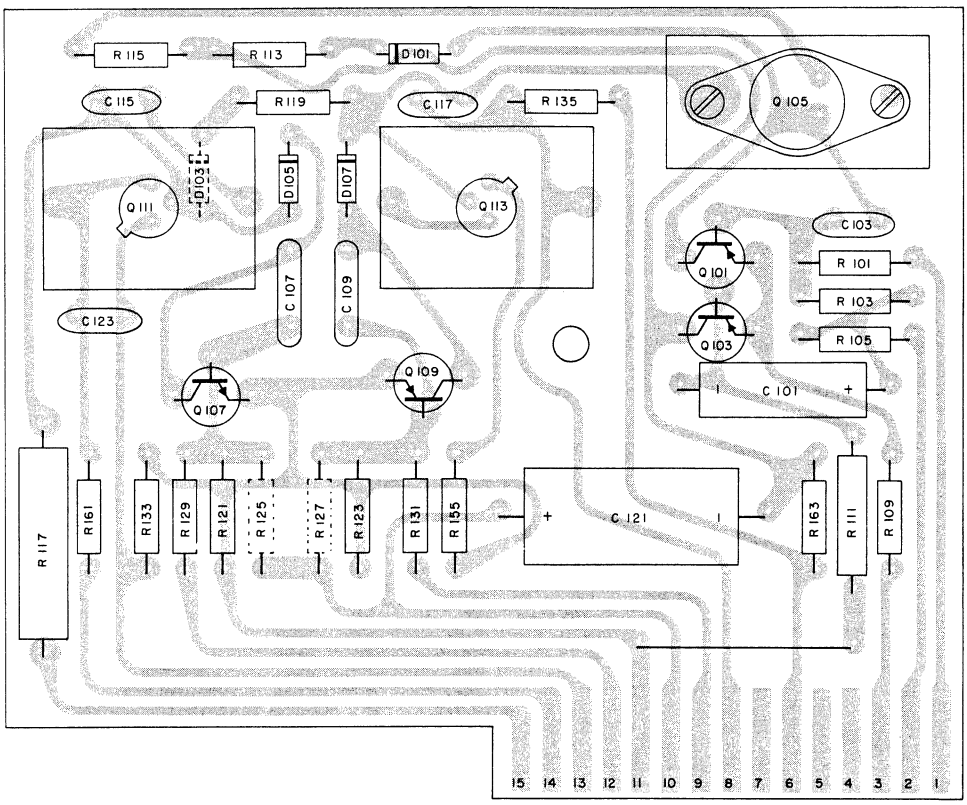


HEAVY LINE SHOWS PRIMARY SIGNAL PATH

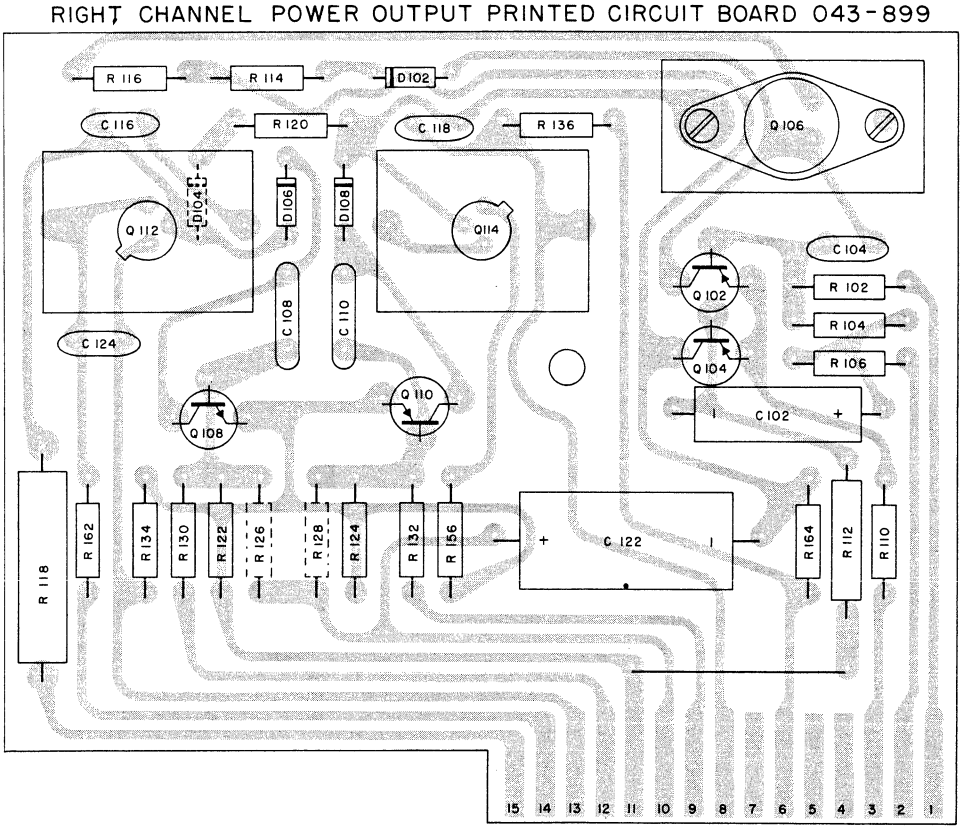
INPUT SECTION

MC 2105 154-407

LEFT CHANNEL POWER OUTPUT PRINTED CIRCUIT•BOARD 043-899



RIGHT CHANNEL POWER OUTPUT PRINTED CIRCUIT BOARD 043-899



SCHEMATIC NOTES

1. Unless otherwise specified: Resistance values are in ohms, 1/2 watt, and 10% tolerance; capacitance values smaller than 1 are in microfarads (μF); capacitance values greater than 1 are in picofarads (pF); inductors are in microhenries (μH).

2. Printed circuit board components are outlined on the schematics by dotted lines. The circled numbers on the dotted lines correspond to the numbers on the PC board layouts.

3. The heavy lines on the schematics denote the primary signal path.

4. The terminal numbering of rotary switches is for reference only.

5. All voltages indicated on the schematics are measured under the following conditions:

   a. Use of an 11 megohm impedance VTVM.

   b. All voltages ±10% with respect to chassis ground.

   c. No signal at input terminals.

   d. AC input at 117 volts AC, 50/60Hz.

   e. Front panel controls at:

Left Gain	FULLY CCW
Meter Range	OFF
Right Gain	FULLY CCW
Speakers	ON
Power	ON

6. C123 and C124 are not used in units with Serial No.'s from 26M08 to 26M48.

7. In units with Serial No.'s below 28M65, R9 and R10 are 4.7k; C5 and C6 are 500μF @ 16V (Part No. 066-107) and C304 is not used.

8. Adjust meter calibration controls R213 (left channel) and R214 (right channel) so output meters indicate +3dB when meter range switch is in the "0" position and the amplifier is delivering 105 watts output.

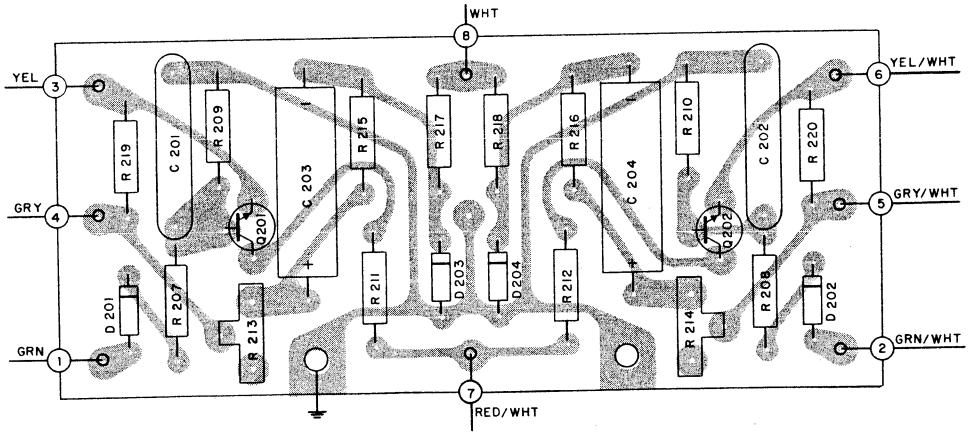
9. In units with Serial No.'s below 34M07: C115, C116, C117, and C118 are 680pF; and R123 and R124 are 120 ohms.

10. In units with Serial No.'s below 30M87, C13 and C14 are not used.

11. In units with Serial No.'s below 74M12: R213 and R214 are 1k, and R111, R112, R105, and R106 are 5% tolerance resistors.

12. In units with Serial No.'s below 98M34: R121 & R122 are 120Ω; R123 & R124 are 150Ω; R125, R126, R127 & R128 are used and R129, R130, R131 & R132 are 100Ω.

13. Bias Diodes D103 & D104 are heated by transistors Q111 & Q112. When replacing these Diodes be sure to use a heat transfer grease and mount exactly as factory installed Diodes were mounted.



METER SECTION PRINTED CIRCUIT BOARD 043-711

REPLACEMENT PARTS

All parts not listed are common items abtainable from radio parts jobbers.

Replacement parts may be obtained when ordered by PART NUMBER from:

McIntosh Laboratory Inc.
Customer Service Department
2 Chambers Street
Binghamton, New York 13903
(telephone 607-723-3512)

CAPACITORS

Symbol Number	Description			Part Number
C1,2	Mylar	.22µF	250V	064-043
C3,4	Mylar	.47µF	250V	064-045
C5,6	Elect.	640µF	25V	066-135
C9,10	Elect.	10µF	25V NP	066-005
C11,12	Elect.	100µF	15V	066-127
C101,102	Elect.	330µF	3V	066-105
C121,122	Elect.	150µF	63V	066-205
C201,202	Mylar	.47µF	250V	064-045
C203,204	Elect.	100µF	3V	066-047
C301	Elect.	39,000µF	40V	066-119
C302	Elect.	39,000µF	40V	066-119
C303	Elect.	80/80/150/50µF 200/200/150/150V		066-095
C304	Dual disc	.1µF	100V	061-113

DIODES

D101,102	Si. signal diode	070-047
D103,104	Bias diode	070-046
D105,106	Si. signal diode	070-047
D107,108	Si. signal diode	070-047
D201,202	Ge. signal diode	070-052
D203,204	Ge. signal diode	070-052
D301,302	Rectifier Assy (Black)	043-903
D303,304	Rectifier Assy (Red)	043-904
D305	Si. rectifier	070-031
D306	Si. rectifier	070-031

FUSES

F301	Fuse 5 ampere Slo-Blo	089-007

METERS

M201,202	Meter (power level)	124-013

TRANSISTORS

Q1,2	Si. NPN transistor	132-092
Q3,4	Si. NPN transistor	132-092
Q5,6	Si. PNP transistor	132-056
Q101,102	Si. PNP transistor	132-056
Q103,104	Si. PNP transistor	132-056
Q105,106	Si. NPN transistor	132-515
Q107,108	Si. NPN transistor	132-090
Q109,110	Si. PNP transistor	132-100
Q111,112	Si. NPN transistor	132-038
Q113,114	Si. PNP transistor	132-039
Q115,116	Si. NPN transistor	132-070
Q117,118	Si. NPN transistor	132-070
Q119,120	Si. NPN transistor	132-070
Q121,122	Si. NPN transistor	132-070
Q123,124	Si. NPN transistor	132-070
Q125,126	Si. NPN transistor	132-070
Q201,202	Si. NPN transistor	132-095

POTENTIOMETERS

R1,2	Gain controls	134-208
R213,214	Meter calibration adjust	134-257

RESISTORS

R117,118	Wirewound	3.6k	5%	5W	139-096
R137,138	Wirewound	.56Ω		5W	139-081
R141,142	Wirewound	.56Ω		5W	139-081
R143,144	Wirewound	.33Ω		5W	139-080
R145,146	Wirewound	.33Ω		5W	139-080
R147,148	Wirewound	.33Ω		5W	139-080
R149,150	Wirewound	.33Ω		5W	139-080
R159,160	Wirewound	.33Ω		5W	139-080
R301,302	Thermistor				144-012

SWITCHES

S1	Input coupling switch	148-024
S101	Speaker switch	146-103
S201	Meter range switch	146-109
S301	Power on-off switch	146-102
S302,303	Thermal cut-out	153-007

TRANSFORMERS

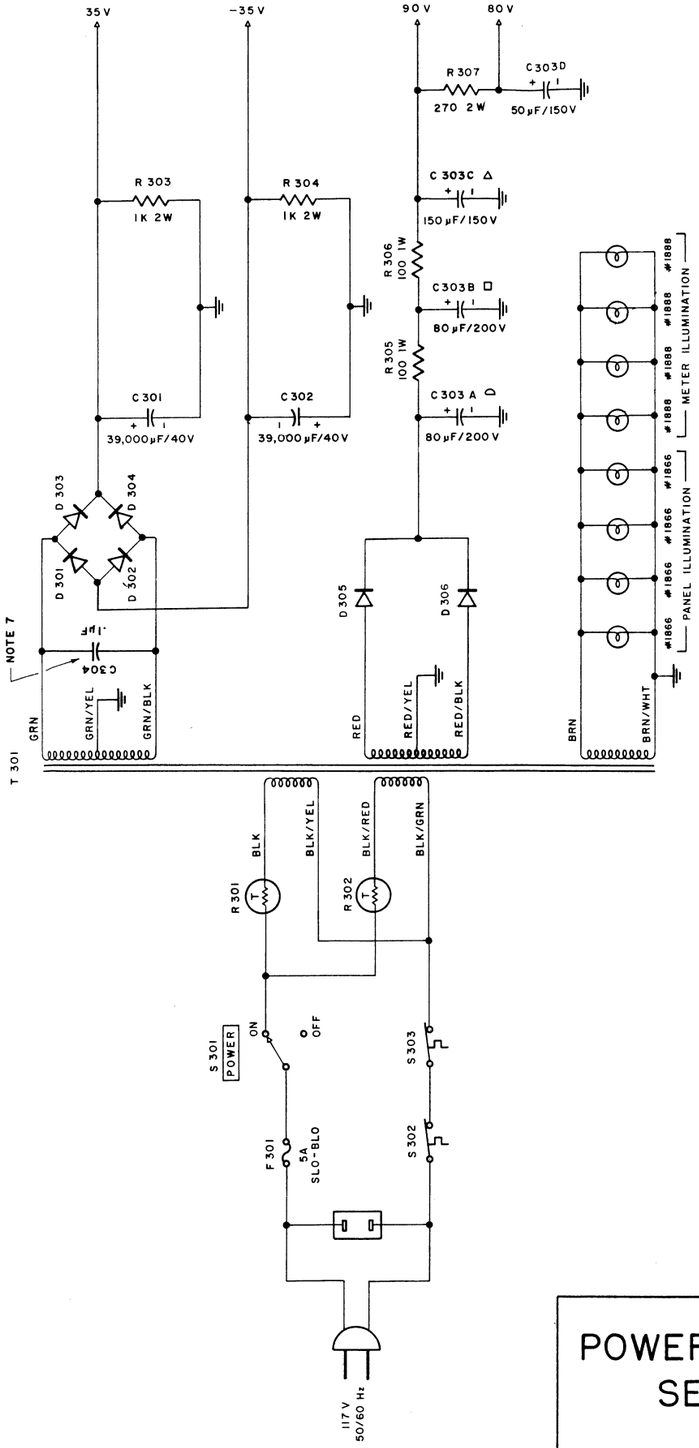
T101,102	Output transformer	043-694
T301	Power transformer	043-693

LEFT CHANNEL POWER OUTPUT SECTION
PRINTED CIRCUIT BOARD 043-899

RIGHT CHANNEL POWER OUTPUT SECTION
PRINTED CIRCUIT BOARD 043-899

POWER OUTPUT SECTION

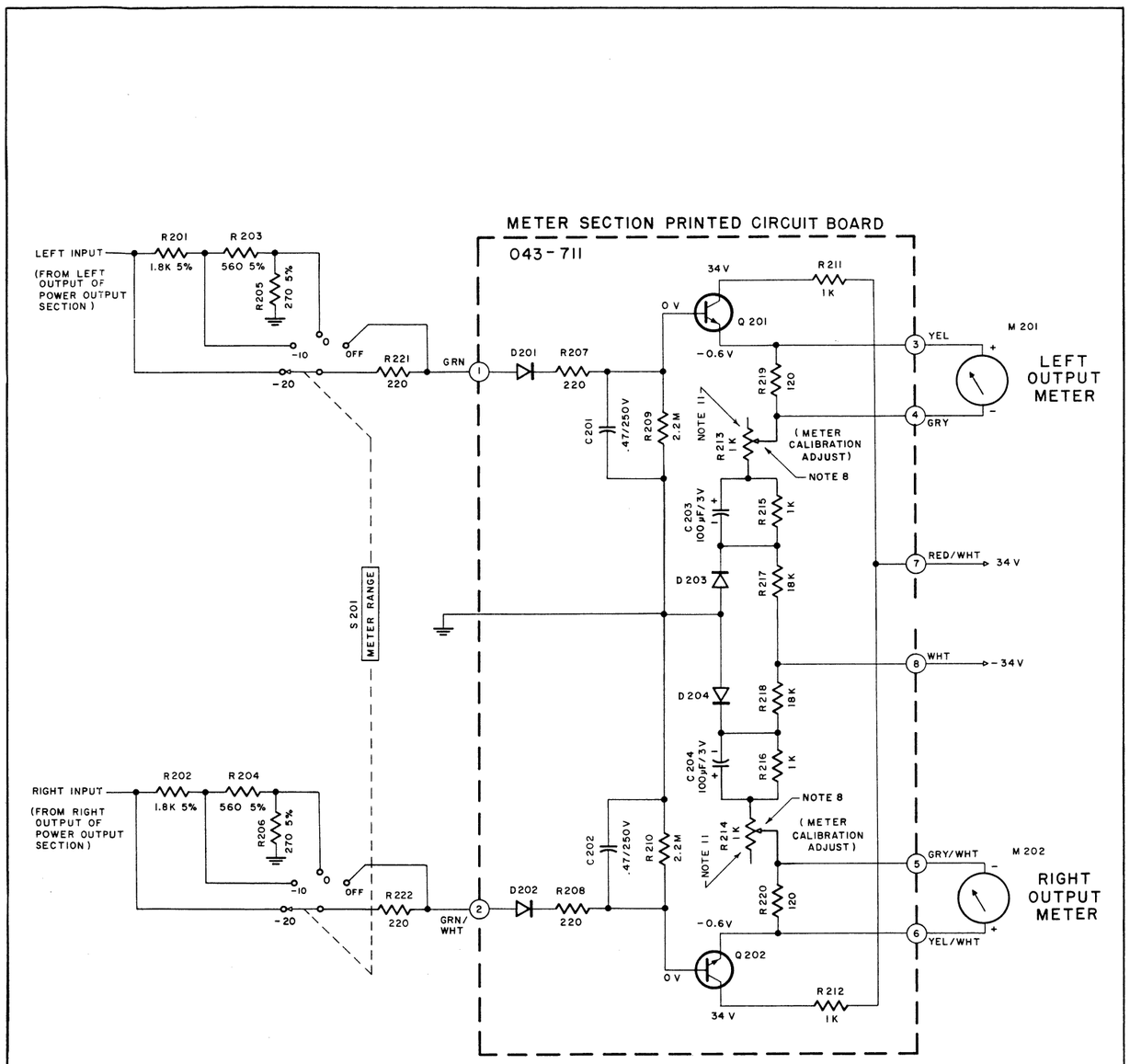
MC 2105 154-625



POWER SUPPLY SECTION

MC 2105 154-364

MC 2105



METER SECTION

MC 2105 154-538

FRONT PANEL AND TRIM	
Front panel	043-735
Front panel end caps	018-112
Knobs (all controls)	044-372
LAMPS	
#1866 (for wording)	058-014
#1888 (for meters)	058-029
PANLOC SYSTEM	
Shelf bracket (right)	043-678
Shelf bracket (left)	043-679
Mounting template #300	038-244
Hardware package	043-691
MISCELLANEOUS ITEMS	
Plastic feet	017-041
Shipping carton	043-793
Owners manual	038-647
Line cord	170-021